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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/584,276   | 05/21/2007  | Robert Cudini        | CUDI3001 /EJD       | 4085             |
| 23364 7590 02/19/2009<br>BACON & THOMAS, PLLC<br>625 SLATERS LANE<br>FOURTH FLOOR<br>ALEXANDRIA, VA 22314-1176 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| DEVITO, ALEX T   |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 4176   |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/584,276

**Applicant(s)**

CUDINI ET AL.

**Examiner**

ALEX DEVITO

**Art Unit**

4176

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date 6/23/06&4/18/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to the Applicant's communication filed on January 8, 2007 and preliminary amendment concurrently filed therewith. In virtue of this amendment, original claims 1-15 are canceled; claims 16-30 are newly added; and thus, claims 16-30 are now presented in the instant application.

#### ***Information Disclosure Statement***

1. The Information Disclosure Statement filed on 6/23/06 and 4/18/08 are in compliance with 37 C.F.R. 1.97. Accordingly, the Information Disclosure Statements is being considered by the examiner.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show elements 7 and 23 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being

amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

4. The disclosure is objected to because of the following informalities: There is an inconsistency with the element numbering. Element 7 is referred to as : "physical-to-electrical sensor 7" on page 8, lines 27-28; "the sensor 7 " on page 8, line 30; "measuring device electronics 7" on page 9, line 7 and "sensor 7" on page 9 line 9. The applicant's recitation of "The plug elements are inserted into the socket elements and contact there such that sensor 7 and measuring device electronics 7 are electrically connected together" render the different element 7s mutually exclusive.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 16, 17 and 25-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Dreyer et al. (U.S. Patent No. 6,539,819), hereinafter Dreyer.

With respect to claim 16, Dreyer discloses a modular measuring device, comprising:  
a sensor module [2] having a sensor compartment [5], in which a physical-to-electrical sensor [7] is arranged (see column 2, line 62 - column 3, line 10; an electronics module [13], having an electronics compartment [14], in which a measuring device electronics [16] is arranged; a first connecting element [19] mounted on said electronics module and electrically connected with said measuring device electronics (column 3, lines 40-51); and a second connecting element [15] mounted on said sensor module and electrically connected with said sensor (column 3, lines 40-51); wherein: said sensor module and said electronics module are releasably, mechanically connected together, accompanied by the formation of a connecting compartment lying between said sensor

compartment and said electronics compartment (column 2, lines 31-39 and column 3 lines 40-61), preferably a connecting compartment sealed fluid-tightly, and/or pressure-tightly, relative to a surrounding atmosphere; said two connecting elements are electrically, preferably galvanically, connected together, so that said measuring device electronics and said sensor are electrically coupled together (column 3, lines 40-43); and said two connecting elements, connected together, are accommodated in the connecting compartment [13] formed between said sensor compartment and said electronics compartment (note that in figure 1, 13 is between 5 and 14, the sensor compartment and the electronics compartments).

With respect to claim 17, Dreyer discloses the measuring device as claimed in claim 16 wherein: at least one of said two connecting elements is movably mounted (see column 2, lines 31-39).

With respect to claim 25, Dreyer discloses the measuring device as claimed in claim 16, further comprising: and essentially ring-shaped seal [33], which is so arranged in said connecting compartment, that it laterally surrounds at least one of said two connecting elements (33 surrounds 19, see figure 1) and contacts with an external side at least one side wall of said connecting compartment (see figure 1 and column 3, lines 52-61).

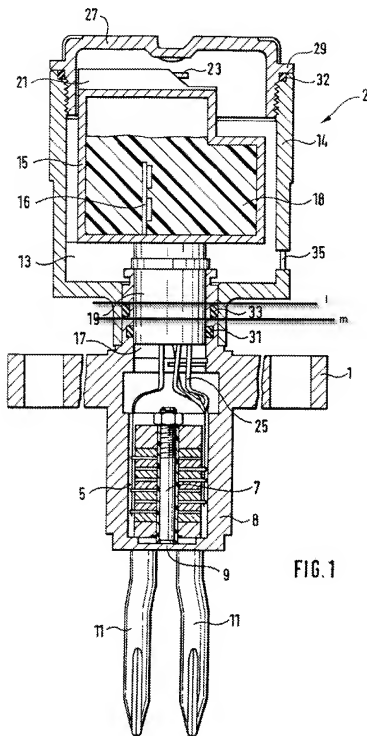
With respect to claim 26, Dreyer discloses the measuring device as claimed in claim 25 wherein: said seal [33] is arranged coaxially, especially concentrically, with the surrounded connecting element (column 3, lines 52-61).

With respect to claim 27, Dreyer discloses the measuring device as claimed in claim 25 wherein: said seal [33] is arranged within said connecting compartment [17] in the region of a peripheral gap in the side wall of said connecting compartment, and lying between said connecting element [19] and side wall of said connecting compartment [17] (column 3, lines 50-51).

With respect to claim 28, Dreyer discloses the measuring device as claimed in claim 25 wherein: said seal [33] has on its outside, contacting the side wall of said connecting compartment, two sealing lips extending essentially in parallel with one another (see annotated Dreyer's figure 1 below).

With respect to claim 29, Dreyer discloses the measuring device as claimed in claim 27 wherein: said seal [33] is so arranged in said connecting compartment that the two sealing lips extend essentially in parallel with said gap in the side wall of said connecting compartment (see annotated Dreyer's figure 1 below and column 3, lines 52-61).

With respect to claim 30, Dreyer discloses the measuring device as claimed in claim 29 wherein: said seal [33] is so arranged in said connecting compartment that said gap in the side wall of said connecting compartment extends essentially between the sealing lips of the seal (see annotated Dreyer's figure 1 below and column 3, lines 52-61).



Note sealing lips touching lines l and m are parallel.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer (U.S. Patent No. 6,539,819) in view of Frick (U.S. Publication No. 2002/0011115).

With respect to Claim 18, Dreyer discloses all the claimed limitations of claim 16, as expressly recited above, but does not disclose at least one side wall of at least one of said two connecting elements has at least one essentially straight groove and at least one side wall of said connecting compartment has at least one, essentially straight projection corresponding with said groove of said connecting element; and the projection of said connecting compartment is received by said groove of said connecting element.

Frick discloses a modular measuring device with at least one side wall of at least one of said two connecting elements has at least one essentially straight groove and at

least one side wall of said connecting compartment has at least one, essentially straight projection [109] corresponding with said groove [107] of said connecting element; and the projection of said connecting compartment is received by said groove of said connecting element (paragraph 24).

Since Frick uses these projections and grooves to fit together two connecting elements in a modular measuring device, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the modular measuring device of Dreyer by fitting the connecting elements with projections and grooves as taught by Frick to rotatably mate the connecting elements (see Frick paragraph 24) for the benefit of securing the connection.

With respect to Claim 19, Dreyer discloses all the claimed limitations of claim 16, as expressly recited above, but does not disclose at least one side wall of at least one of said two connecting elements has at least one essentially straight projection and at least one side wall of said connecting compartment has an essentially straight groove corresponding with the projection of said connecting element; and the projection of said connecting element is received by the groove of said connecting compartment.

Frick discloses a modular measuring device with at least one side wall of at least one of said two connecting elements has at least one essentially straight projection (109) and at least one side wall of said connecting compartment has an essentially straight groove (107) corresponding with the projection of said connecting element; and the projection of said connecting element is received by the groove of said connecting compartment (paragraph 24).

Since Frick uses these projections and grooves to fit together two connecting elements in a modular measuring device, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the modular measuring device of Dreyer by fitting the connecting elements with projections and grooves as taught by Frick to rotatably mate the connecting elements (see Frick paragraph 24) for the benefit of securing the connection.

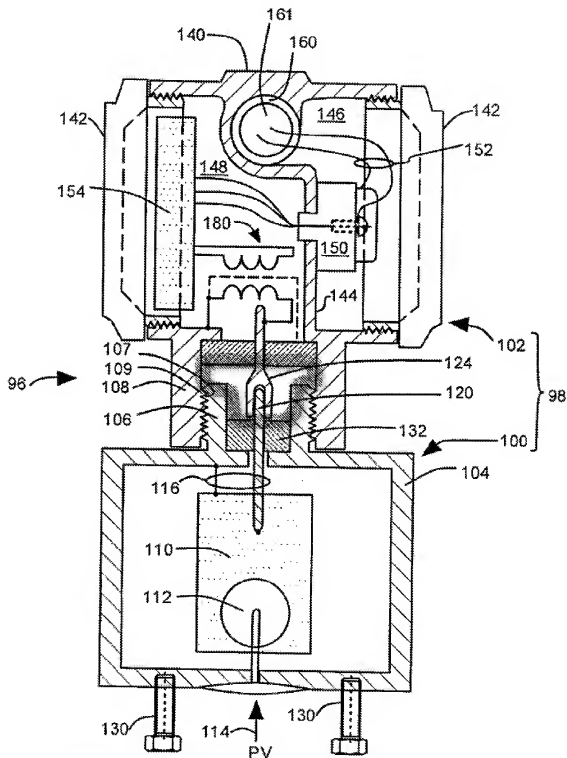
With respect to claim 20, the combination of Dreyer and Frick disclose all the claimed limitations of claim 18 above and also disclose that at least one of said two connecting elements has electrically conductive, plug elements (Frick, element 124 of figure 1) directed essentially in parallel with one another (see Frick, Figure 1); and the other of said two connecting elements has electrically conductive, socket elements (Frick, element 120 of figure 1) directed essentially in parallel with one another and corresponding to said plug elements; said plug elements are inserted into said socket elements and so contact said socket elements, that said sensor and said measuring device electronics are electrically connected together (see Frick, paragraph 29); and said plug elements and said socket elements are directed essentially in parallel with said at least one groove of said connecting compartment and/or with the at least one projection of said connecting compartment (see Frick's figure 1).

With respect to claim 21, the combination of Dreyer and Frick disclose all the claimed limitations of claim 20 above and also disclose that both said plug elements and said socket elements protrude into said connecting compartment (see annotated figure 1 of Frick below).

With respect to claim 22, the combination of Dreyer and Frick disclose all the claimed limitations of claim 20 above and also disclose that at least one of said plug elements and/or at least one of said socket elements is mounted laterally and/or rotatably movably within said connecting element of which it is a part (see Frick, paragraph 29).

With respect to claim 23, the combination of Dreyer and Frick disclose all the claimed limitations of claim 18 above and also disclose for preventing an erroneous assembly of said sensor module and said electronics module, the at least one projection of said connecting compartment and said connecting element groove corresponding with such are so arranged, that an installed position of said sensor module relative to said electronics module is uniquely determined (see Frick, paragraph 24 and figure 1 to see only one way for the threads to engage).

With respect to claim 24, the combination of Dreyer and Frick disclose all the claimed limitations of claim 18 above and also disclose for preventing an erroneous assembly of said sensor module and said electronics module, the at least one groove of said connecting compartment and said connecting element projection corresponding with such are so arranged, that an installed position of said sensor module relative to said electronics module is uniquely determined (see Frick, paragraph 24 and figure 1 to see only one way for the threads to engage).



Note the highlighted connecting  
compartment region in which both 120 and  
124 protrude into.

FIG. 1

***Citation of relevant prior art***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lewis (US Patent No. 4,640,128) discloses a mechanism for proper alignment of sensor probes with fluid sample chamber;

Duncan et al. (US Patent No. 5,070,732) discloses a modular sensor device; and

Vinci (US Patent No. 5,295,747) discloses a temperature and pressure sensor for cooling systems and other pressurized systems.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX DEVITO whose telephone number is (571)270-7551. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm Alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thuy Vinh Tran can be reached on 571-272-1828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 4176  
2/3/09

/Thuy Vinh Tran/  
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02/03/2009